

F-897
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AMENDMENT TO THE CLAIMS

Claims 1 – 14 (**Cancelled**).

Please add the following new claims:

15. **(New)** An olefin polymerization process comprising:

- a) providing a chromium-based or Ziegler Natta polymerization catalyst;
- b) contacting said catalyst with an alpha olefin in a polymerization reactor

under polymerization conditions with an anti-fouling polymer having an average molecular weight greater than 1,000 daltons and having

- i) at least one polymer block characterized by the formula $-(CH_2-CH_2-O)_k-$ wherein k is within the range of 1 – 50; and
- ii) at least one polymer block characterized by the formula $-(CH_2-CH(R)-O)_n-$ wherein R comprises an alkyl group having from 1 – 6 carbon atoms and n is within the range of 1 – 50;

wherein said copolymer is terminated by end groups R' and R'', R' is OH or a C₁ – C₆ alkoxy group and R'' is H or a C₁ – C₆ alkyl group;

- c) recovering an olefin polymer from said reaction zone.

16. **(New)** The process of claim 15 wherein R is a methyl group.

17. **(New)** The process of claim 15 wherein said anti-fouling polymer is liquid at room temperature.

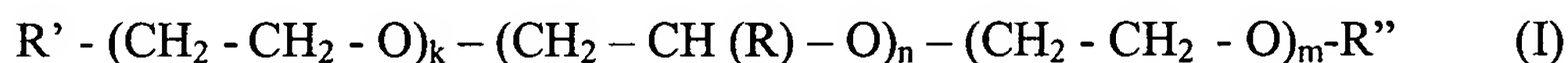
18. **(New)** The process of claim 17 wherein said anti-fouling polymer has a molecular weight of at least about 2,000 daltons.

19. **(New)** The process of claim 18 wherein said anti-fouling polymer has a molecular weight of no more than 5,000 daltons.

20. **(New)** The process of claim 18 wherein said anti-fouling polymer has a molecular weight within the range of 2,000 – 4,500 daltons.

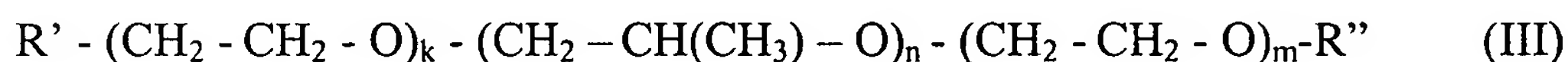
21. **(New)** The process of claim 15 wherein the ends of said anti-fouling polymer are hydrophilic.

22. **(New)** The process of claim 15 wherein said anti-fouling polymer comprises a block copolymer characterized by formula (I) or (II):



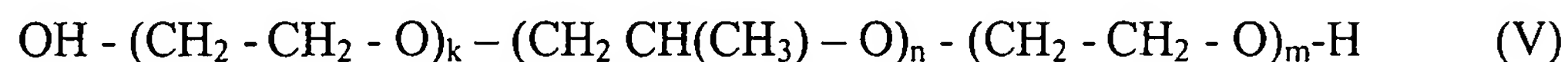
wherein R comprises an alkyl group; R' and R'' are end groups as defined in claim 15; k is from 1 to 50; n is from 1 to 50; $m \geq 1$; a is from 1 to 50; b is from 1 to 50; and c is from 0 to 50.

23. **(New)** The process of claim 22 wherein said anti-fouling polymer comprises a block copolymer characterized by formula (III):



wherein R', R'', k, n, and m independently are as defined in claim 22.

24. **(New)** The process of claim 22 wherein the anti-fouling polymer comprises a block copolymer characterized by the general formula (V):



where k, n, and m independently are as defined in claim 22.

25. **(New)** The process of claim 15 wherein said reactor comprises a loop reactor.

26. **(New)** The process of claim 25 wherein said reactor comprises a double loop reactor.

27. **(New)** The process of claim 15 wherein said polymerization reactor is operated at a temperature within the range from 40° to 130° C.

28. **(New)** The process of claim 27 wherein said reactor is operated at a pressure within the range of from 5 to 200 bars.

29. **(New)** The process of claim 15 wherein said polymer comprises an alpha olefin homopolymer or copolymer.

30. **(New)** The process of claim 29 wherein said polymer is a homopolymer of ethylene or a copolymer of ethylene and at least one C₃ + alpha olefin.